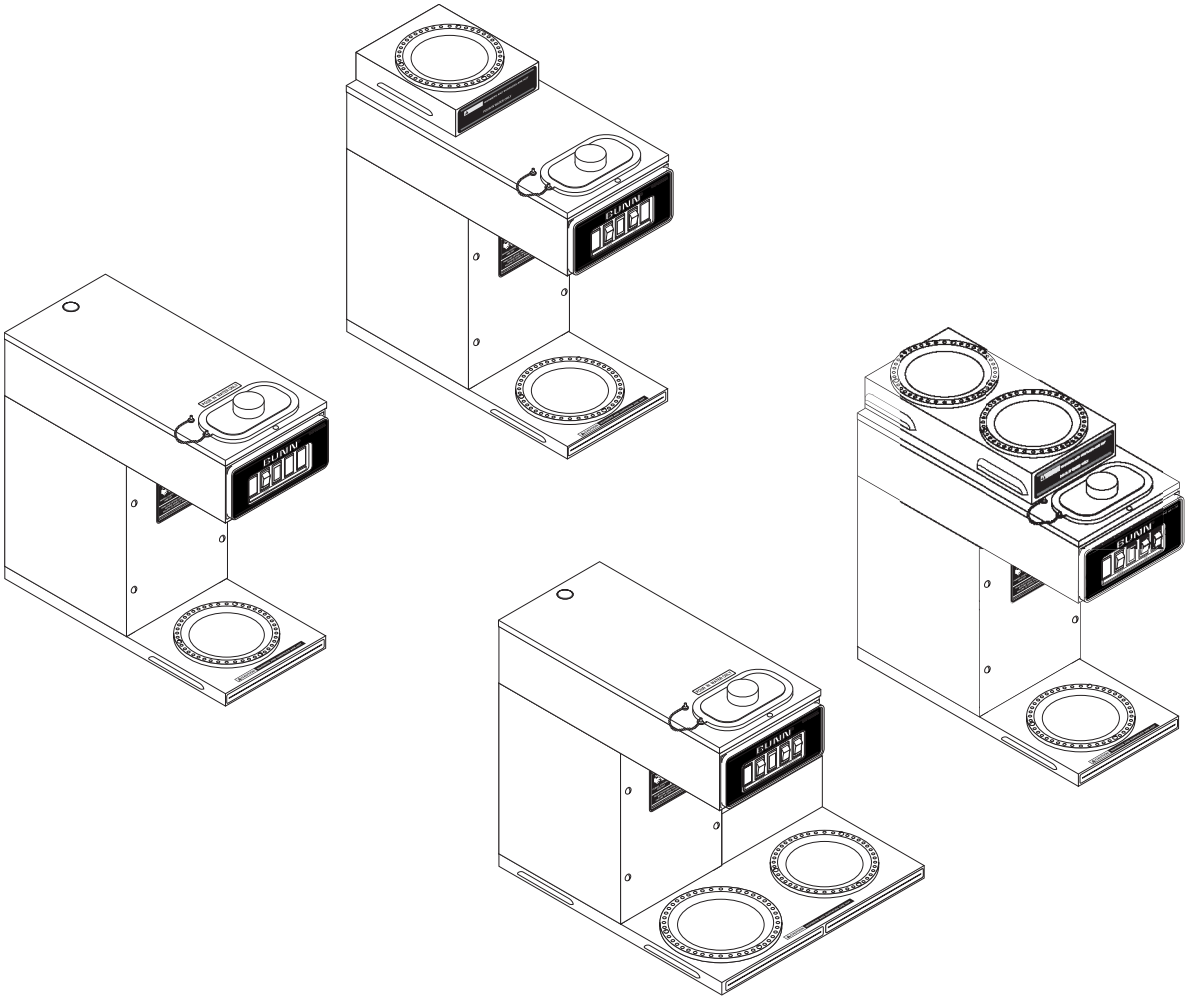
BUNN®

VP17A



OPERATING & SERVICE MANUAL

BUNN-O-MATIC CORPORATION

POST OFFICE BOX 3227
SPRINGFIELD, ILLINOIS 62708-3227
PHONE: (217) 529-6601 FAX: (217) 529-6644

10860.0001C 9/00 ©1997 Bunn-O-Matic Corporation

INTRODUCTION

This equipment will brew a half-gallon batch of coffee into an awaiting dispenser. It is only for indoor use on a sturdy counter or shelf.

WARRANTY

Bunn-O-Matic Corp. ("Bunn") warrants the equipment manufactured by it to be commercially free from defects in material and workmanship existing at the time of manufacture and appearing within one year from the date of installation. In addition:

1.) Bunn warrants electronic circuit and/or control boards to be commercially free from defects in material and workmanship for two years from the date of installation.

2.) Bunn warrants the compressor on refrigeration equipment to be commercially free from defects in material and workmanship for two years from the date of installation.

3.) Bunn warrants that the grinding burrs on coffee grinding equipment will grind coffee to meet original factory screen sieve analysis for three years from date of installation or for 30,000 pounds of coffee, whichever comes first.

This warranty does not apply to any equipment, component or part that was not manufactured by Bunn or that, in Bunn's judgement, has been affected by misuse, neglect, alteration, improper installation or operation, improper maintenance or repair, damage or casualty.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY OTHER WARRANTY, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF EITHER MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The agents, dealers or employees of Bunn are not authorized to make modifications to this warranty or to make additional warranties that are binding on Bunn. Accordingly, statements by such individuals, whether oral or written, do not constitute warranties and should not be relied upon.

The Buyer shall give Bunn prompt notice of any claim to be made under this warranty by telephone at (217) 529-6601 or by writing to Post Office Box 3227, Springfield, Illinois, 62708-3227. If requested by Bunn, the Buyer shall ship the defective equipment prepaid to an authorized Bunn service location. If Bunn determines, in its sole discretion, that the equipment does not conform to the warranty, Bunn shall repair the equipment with no charge for parts during the warranty period and no charge for labor by a Bunn Authorized Service Representative during the warranty period. If Bunn determines that repair is not feasible, Bunn shall, at its sole option, replace the equipment or refund the purchase price for the equipment.

THE BUYER'S REMEDY AGAINST BUNN FOR THE BREACH OF ANY OBLIGATION ARISING OUT OF THE SALE OF THIS EQUIPMENT, WHETHER DERIVED FROM WARRANTY OR OTHERWISE, SHALL BE LIMITED, AS SPECIFIED HEREIN, TO REPAIR OR, AT BUNN'S SOLE OPTION, REPLACEMENT OR REFUND.

In no event shall Bunn be liable for any other damage or loss, including, but not limited to, lost profits, lost sales, loss of use of equipment, claims of Buyer's customers, cost of capital, cost of down time, cost of substitute equipment, facilities or services, or any other special, incidental or consequential damages.

USER NOTICES

Carefully read and follow all notices in this manual and on the equipment. All labels on the equipment should be kept in good condition. Replace any unreadable or damaged labels.

12364.0000

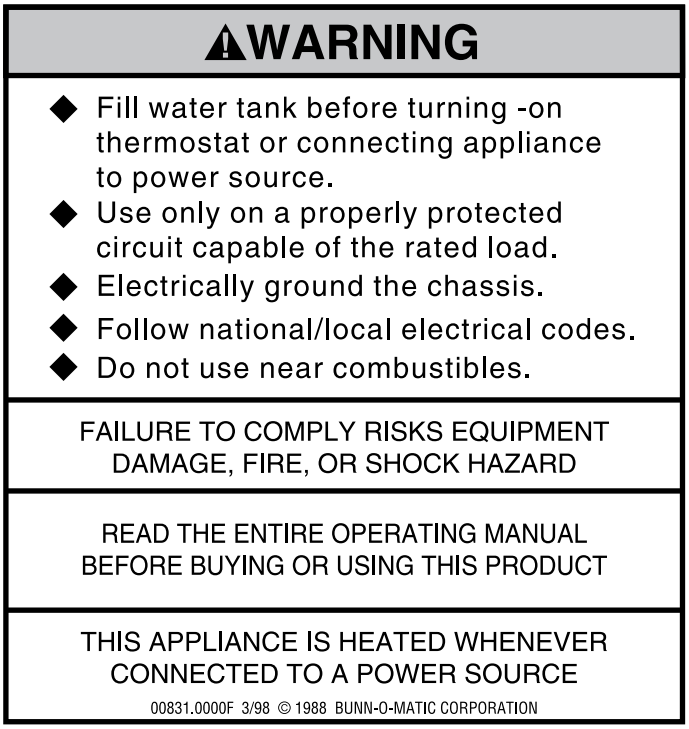
00833.0000

USER NOTICES (cont.)

00658.0000

WARNING
FUNNEL CONTENTS ARE HOT
DISCARD DECANTER IF:
• CRACKED
• SCRATCHED
• BOILED DRY
• HEATED WHEN EMPTY
• USED ON HIGH FLAME OR EXPOSED ELECTRIC ELEMENTS
READ THE ENTIRE OPERATING MANUAL BEFORE USING THIS PRODUCT FAILURE TO COMPLY RISKS INJURY
PN: 00658.0000F 6/98 © 1985 BUNN-O-MATIC CORPORATION

#00831.0000

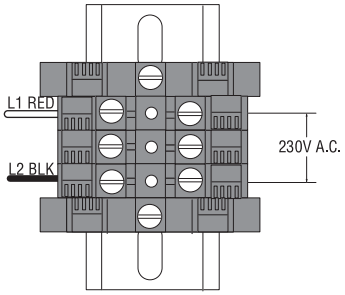

WARNING
◆ Fill water tank before turning -on thermostat or connecting appliance to power source.
◆ Use only on a properly protected circuit capable of the rated load.
◆ Electrically ground the chassis.
◆ Follow national/local electrical codes.
◆ Do not use near combustibles.
FAILURE TO COMPLY RISKS EQUIPMENT DAMAGE, FIRE, OR SHOCK HAZARD
READ THE ENTIRE OPERATING MANUAL BEFORE BUYING OR USING THIS PRODUCT
THIS APPLIANCE IS HEATED WHENEVER CONNECTED TO A POWER SOURCE
00831.0000F 3/98 © 1988 BUNN-O-MATIC CORPORATION

02763.0000

ELECTRICAL REQUIREMENTS

CAUTION - The brewer must be disconnected from the power source until specified in *Initial Set-Up.*

The brewer requires 2-wire, grounded service rated 220 - 240 volts ac, 20 amp, single phase, 50 Hz. An all pole disconnect means must be incorporated in the fixed wiring according to local wiring regulations. Proceed as follows:



ELECTRICAL HOOK-UP

CAUTION – Improper electrical installation will damage electronic components.

1. An electrician must provide electrical service as specified.
2. Using a voltmeter, check the voltage and color coding of each conductor at the electrical source.
3. Remove the front panel beneath the sprayhead.
4. Feed the cord through the strain relief and connect it to the terminal block.
5. Connect the brewer to the power source and verify the voltage at the terminal block before proceeding. Replace the front panel.

INITIAL SET-UP

CAUTION - The brewer must be disconnected from the power source throughout the initial set-up, except when specified in the instructions.

1. Insert an empty funnel into the funnel rails.
2. Place an empty dispenser under the funnel.
3. Pour three pitchers of tap water into the screened area on top of the brewer. Allow approximately two minutes between pitchers for water to flow into the tank. While the third pitcher of water is entering the tank, the tank will fill to capacity and the excess will flow from the sprayhead, out of the funnel, and into the dispenser.
4. Connect the brewer to the power source.
5. When the flow of water from the funnel stops, wait approximately twenty minutes for the water in the tank to heat to the proper temperature. Some water will drip from the funnel during this time; this is due to expansion and should not occur thereafter.
6. Empty the dispenser and pour one pitcher of tap water into the screened area on top of the brewer.
7. After water has stopped flowing from the funnel, let the water in the tank reheat to the proper temperature.
8. Empty the dispenser. The brewer is now ready for use in accordance with the coffee brewing instructions below.

COFFEE BREWING

1. Insert a BUNN® filter into the funnel.
2. Pour the fresh coffee into the filter and level the bed of grounds by gently shaking.
3. Slide the funnel into the funnel rails.
4. Place an empty dispenser beneath the funnel.
5. Pour one pitcher of tap water into the screened area on top of the brewer.
6. When brewing is completed, simply discard the grounds and filter.

CLEANING

1. The use of a damp cloth rinsed in any mild, non-abrasive, liquid detergent is recommended for cleaning all surfaces on Bunn-O-Matic equipment.
2. Check and clean the sprayhead. The sprayhead holes must always remain open.
3. With the sprayhead removed, insert the deliming spring (provided) all the way into the sprayhead tube. When inserted properly, no more than two inches of spring should be visible. Saw back and forth five or six times.

NOTE – In hard water areas, this may need to be done daily. It will help prevent liming problems in the brewer and takes less than a minute.

TROUBLESHOOTING

A troubleshooting guide is provided to suggest probable causes and remedies for the most likely problems encountered. If the problem remains after exhausting the troubleshooting steps, contact the Bunn-O-Matic Technical Service Department.

- Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel.
- This brewer is heated at all times. Keep away from combustibles.

WARNING –
- Exercise extreme caution when servicing electrical equipment.
- Unplug the brewer when servicing, except when electrical tests are specified.
- Follow recommended service procedures
- Replace all protective shields or safety notices

PROBLEM	PROBABLE CAUSE	REMEDY
Brew cycle will not start	1. No water	Check fill basin for obstructions.
Water is not hot	1.Thermal Cut-Off **CAUTION -** Do not eliminate or bypass thermal cut-offs.	Refer to *Service* - Thermal Cut-Off for testing procedures. See page 13
	2. Control Thermostat	Refer to *Service* - Control Thermostat for testing procedures. See page 10
	3. Tank Heater	Refer to *Service* - Tank Heater for testing procedures. See page 12
Inconsistent beverage level in dispenser	1. Syphon System	The brewer must be level or slightly lower in front to syphon properly.
	2. Lime Build-up **CAUTION -** Tank and tank components should be delimed regularly depending on local water conditions. Excessive mineral build-up on stainless steel surfaces can initiate corrosive reactions resulting in serious leaks.	Inspect the tank assembly for excessive lime deposits. Delime as required.

TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Spitting or excessive steaming	1. Lime Build-up **CAUTION -** Tank and tank components should be delimed regularly depending on local water conditions. Excessive mineral build-up on stainless steel surfaces can initiate corrosive reactions resulting in serious leaks.	Inspect tank assembly for excessive lime deposits. Delime as required.
	2. Control Thermostat	Refer to *Service* - Control Thermostat for testing procedures. See page 10
Dripping from sprayhead	1. Syphon System	The brewer must be level or slightly lower in front to syphon properly.
	2. Lime Build-up **CAUTION -** Tank and tank components should be delimed regularly depending on local water conditions. Excessive mineral build-up on stainless steel surfaces can initiate corrosive reactions resulting in serious leaks.	Inspect the tank assembly for excessive lime deposits. Delime as required.
Beverage overflows dispenser	1. Dispenser	The dispenser must be completely empty before starting a brew cycle.
Weak beverage	1. Filter Type	BUNN® paper filters must be used for proper extraction.
	2. Coffee Grind	A fine or drip grind must be used for proper extraction.
	3. Sprayhead	A six-hole stainless steel sprayhead must be used for proper extraction.

TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Weak beverage (cont.)	4. Funnel Loading	The BUNN® paper filter must be centered in the funnel and the bed of grounds leveled by gentle shaking.
	5. Water Temperature	Place an empty funnel on an empty dispenser beneath the sprayhead. Initiate a brew cycle and check the water temperature immediately below the sprayhead with a thermometer. The reading should not be less than 195°F (91˚C). Adjust the control thermostat to increase the water temperature. Replace if necessary.
Dry coffee grounds remain in the funnel	1. Funnel Loading	The BUNN® paper filter must be centered in the funnel and the bed of grounds leveled by gently shaking.
Brewer is making unusal noises	1. Tank Heater	Remove and clean lime off the tank heater. See page 12
Cool beverage serving temperature	1. ON/OFF Warmer Switch(s)	Refer to *Service* - ON/OFF Warmer Switch for testing procedures. See page 11
	2. Warmer Element(s)	Refer to *Service* - Warmer Element for testing procedures. See page 14

SERVICE

This section provides procedures for testing and replacing various major components used in this brewer should service become necessary. Refer to *Troubleshooting* for assistance in determining the cause of any problem.

WARNING - Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel. The brewer should be unplugged when servicing, except when electrical tests are required and the test procedure specifically states to plug-in the brewer.

COMPONENT ACCESS

WARNING - Disconnect the brewer from the power source before the removal of any panel or the replacement of any component.

All components are accessible by the removal of the top cover, front inspection panel and warmer assemblies.

The top cover is attached with one #4-40 screw.

The front inspection panel is attached with four #6-32 screws.

Contents

Control Thermostat 10
ON/OFF Warmer Switch 11
Tank Heater 12
Thermal Cut-Offs 13
Warmer Elements 14
Wiring Diagrams 15

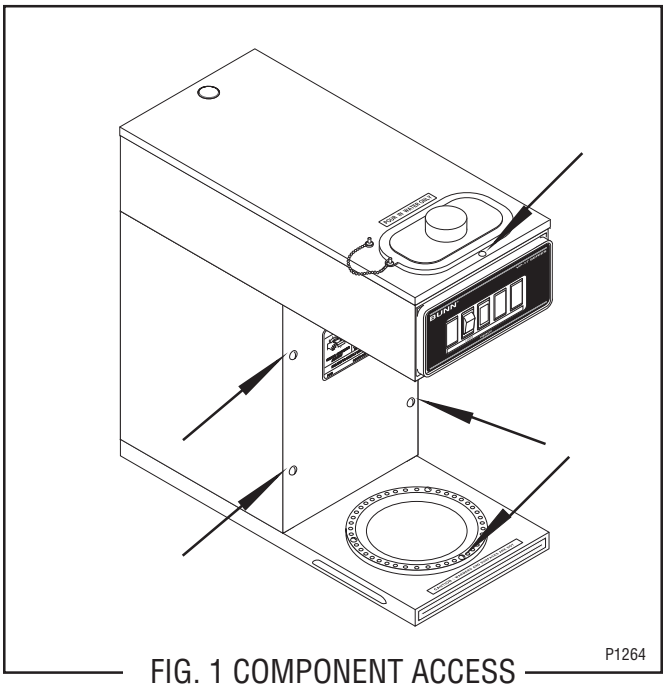
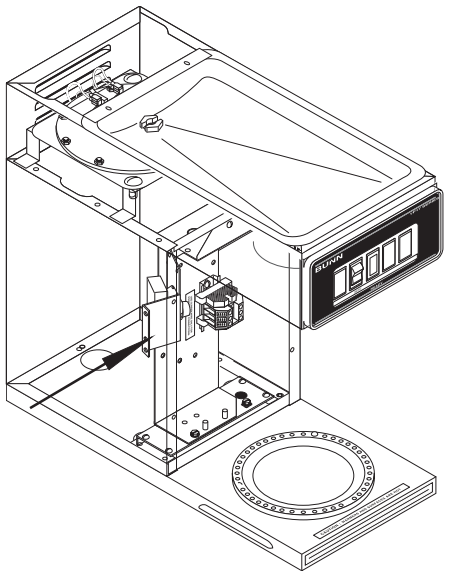


FIG. 1 COMPONENT ACCESS

SERVICE (cont.)

CONTROL THERMOSTAT



P1262

FIG. 2 CONTROL THERMOSTAT

Location:

The control thermostat is located inside the trunk on the upper left side of the component bracket.

Test Procedures:

1. Disconnect the brewer from the power source.
2. With a voltmeter, check the voltage across the blue wire on the control thermostat and red insert on terminal block. Connect the brewer to the power source. The indication must be 220 to 240 volts.
3. Disconnect the brewer from the power source.

If voltage is present as described, proceed to #4.
If voltage is not present as described, refer to the *Wiring Diagrams* and check the brewer wiring harness.

4. Gently remove the capillary bulb and grommet from the tank.
5. With a voltmeter, check the voltage across the black wire of the control thermostat and the red insert on the terminal block, when the control thermostat is turned "ON" (Fully clockwise). Connect the brewer to the power source. The indication must be 220 to 240 volts ac.
6. Disconnect the brewer from the power source.
7. Voltage must not be present when the thermostat is turned to the "OFF" position.

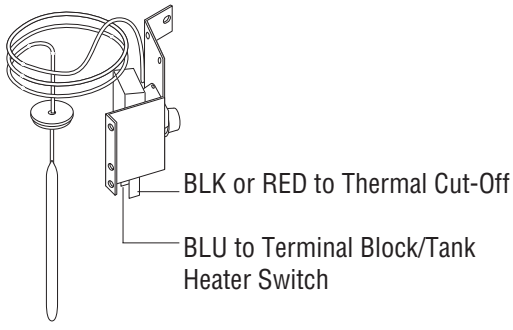
If voltage is present as described, reinstall the capillary tube into the tank to the line 4.5" above the bulb, the control thermostat is operating properly.
If voltage is not present as described, replace the thermostat.

Removal and Replacement:

1. Remove wires from control thermostat.
2. Remove the thermostat capillary bulb by firmly pulling up on the capillary at the tank lid. This will disengage the grommet from the tank lid.
3. Remove the one #8-32 screw securing the control thermostat to the component bracket inside the trunk.
4. Slide the grommet to the line 4.5" above the bulb on the new capillary tube.
5. Insert the capillary bulb through the hole in the tank lid and press the grommet firmly and evenly so that the groove in the grommet fits into the tank lid.
6. Carefully bend the capillary tube so that the tube and bulb inside the tank are in the vertical position.

NOTE - The capillary tube must be clear of any electrical termination and not kinked.

7. Using one #8-32 screw secure the control thermostat to the component bracket inside the trunk.
8. Refer to Fig. 3 when reconnecting the wires.
9. Adjust the control thermostat as required.



P1263

FIG. 3 CONTROL THERMOSTAT TERMINALS

ON/OFF WARMER SWITCH

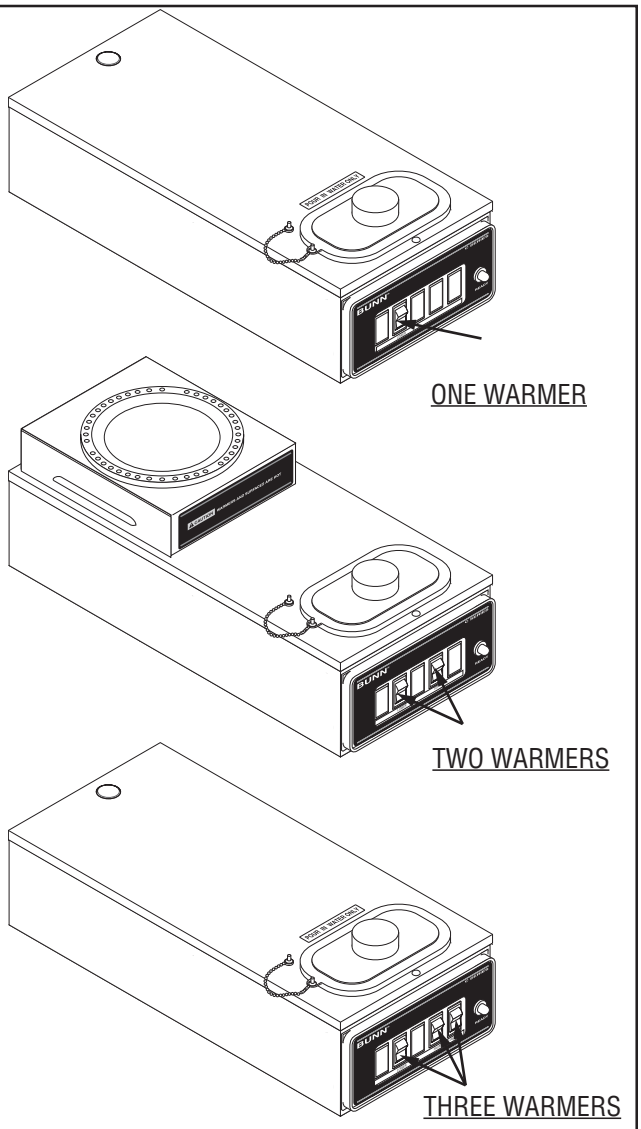


FIG. 4 ON/OFF WARMER SWITCH P1166.45

Location:

The ON/OFF warmer switch(s) are located on the front of the hood.

Test Procedure:

1. Disconnect the brewer from the power source.
2. Viewing the switch from the back, remove the red wire from the upper terminal and the black wire from the center terminal.
3. With a voltmeter, check the voltage across the red wire and the black wire. Connect the brewer to the power source. The indication must be 220 to 240 volts ac.
4. Disconnect the brewer from the power source.

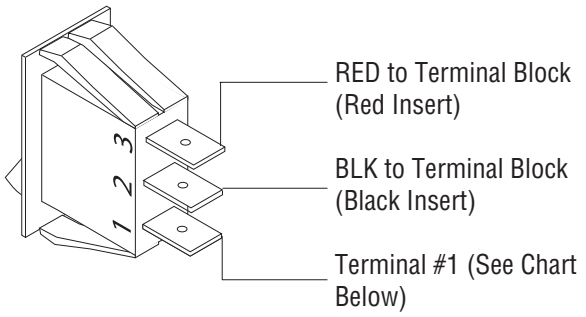
If voltage is present as described, reconnect the red wire and proceed to #5.
If voltage is not present as described, refer to the *Wiring Diagrams* and check the brewer wiring harness.

5. With the black wire removed, remove the wire from the lower terminal.
6. Check for continuity across the center and lower terminal with the switch in the "ON" (upper) position. Continuity must not be present when the switch is in the "OFF" (lower) position.

If continuity is present as described, reconnect the black wire to the center terminal and the remaining wire to the lower terminal.
If continuity is not present as described, replace the switch.

Removal and Replacement:

1. Remove the wires from the switch terminals.
2. Remove front end cap.
3. Compress the clips inside the hood and gently push the switch through the opening.
4. Push the new switch into the opening and spread the clips to hold switch in the hood.
5. Reinstall front end cap.
6. Refer to Fig. 5 when reconnecting the wires.



Connect wire to Terminal #1 as follows:

Lower Warmer	WHI/RED
Rear Warmer	VIO
Front Warmer	BRN/BLK

P1918

FIG. 5 ON/OFF WARMER SWITCH TERMINALS

SERVICE (cont.)

TANK HEATER

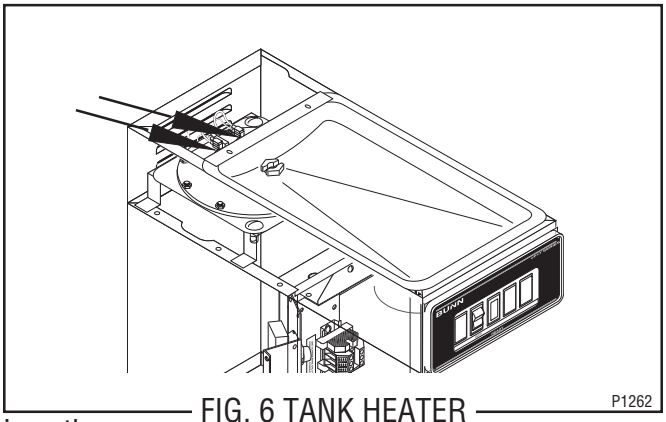


FIG. 6 TANK HEATER

Location:

The tank heater is located inside the tank and secured to the tank lid.

Test Procedures:

1. Disconnect the brewer from the power supply.
2. With a voltmeter, check the voltage across the black and red wire. Connect the brew to the power source. The indication must be 220 to 240 volts ac.
3. Disconnect the brewer from the power source.

If voltage is present as described, proceed to #4
If voltage is not present as described, refer to the *Wiring Diagrams* and check wiring harness.

4. Disconnect the thermal cut-offs from the tank heater terminals.
5. Check for continuity across the tank heater terminals.

If continuity is present as described, reconnect the thermal cut-offs, the tank heater is operating properly.
If continuity is not present as described, replace the tank heater.

NOTE- If the tank heater remains unable to heat, remove and inspect heater for cracks in the sheath.

Removal and Replacement:

1. Remove the tank inlet fitting securing the fill basin to the tank lid, remove fill basin and tank inlet gasket. Set all three parts aside for reassembly.
2. Disconnect the thermal cut-off with blanket warmer lead (white) and thermal cut-off with ready light harness lead (black) from the tank heater terminals.
3. Remove the thermostat capillary bulb by firmly pulling up on the capillary at the tank lid. This will disengage the grommet from the tank lid.
4. Remove sprayhead and the hex nut securing the sprayhead tube to the hood. Set aside for reassembly.
5. Remove the eight #8-32 nuts securing the tank lid to the tank.
6. Remove the tank lid with sprayhead tube and tank heater.
7 Remove the two hex nuts securing the tank heater to the tank lid. Remove tank heater with gaskets and discard.
8. Install new tank heater with gaskets on the tank lid and secure with two hex nuts.
9. Install tank lid with sprayhead tube and tank heater using eight #8-32 hex nut.
10. Secure sprayhead tube to hood using a hex nut.
11. Install sprayhead.
12. Reconnect the thermal cut-offs to the tank heater terminals.
13. Slide the grommet to the line 4.5" above the capillary bulb.
14. Insert the capillary bulb through the hole in the tank lid and press the grommet firmly and evenly so that the groove in the grommet fits into the tank lid.
15. Carefully bend the capillary tube so that the tube and bulb inside the tank are in the vertical position.

NOTE - The capillary tube must be clear of any electrical termination and not kinked.

16. Install fill basin, secure with tank inlet fitting and gasket.
17. Refer to Fig.7 when reconnecting the tank heater wires.

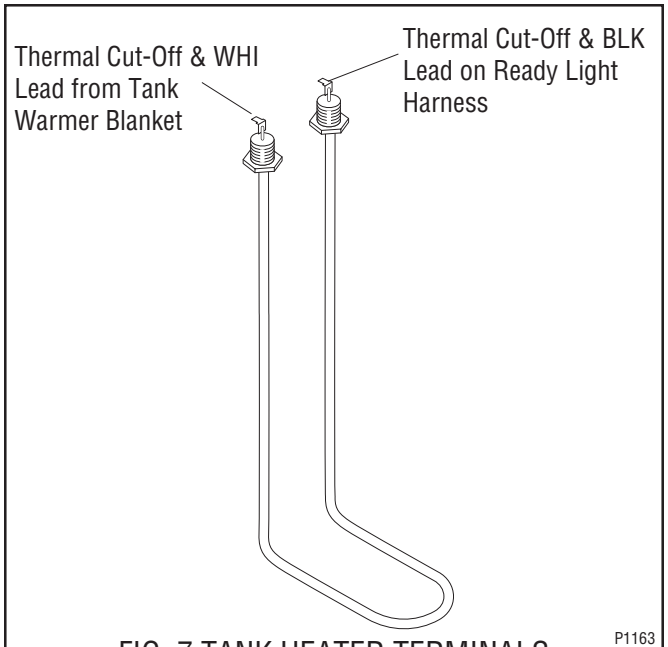


FIG. 7 TANK HEATER TERMINALS

SERVICE (cont.)

THERMAL CUT-OFFS

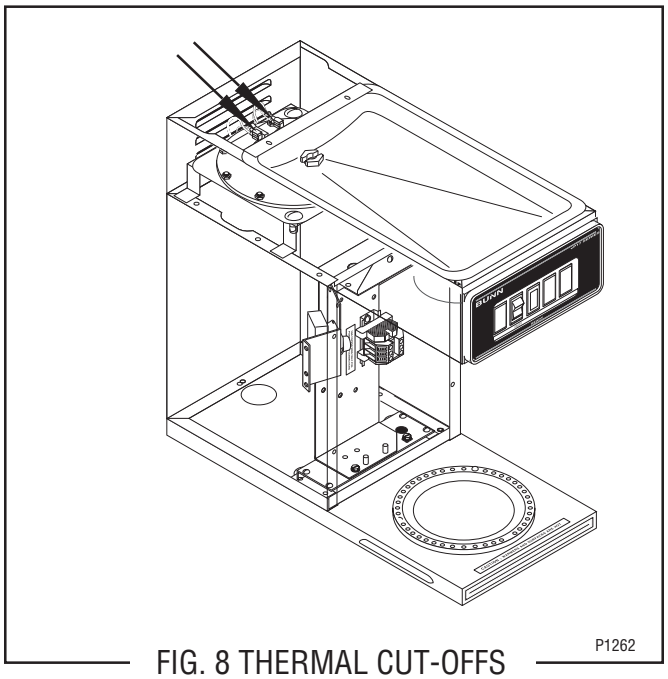


FIG. 8 THERMAL CUT-OFFS

Location:

The thermal cut-offs are located inside the hood connected to the tank heater terminals.

Test Procedures:

1. Disconnect the brewer from the power source.
2. Disconnect the thermal cut-off from the terminal on the black lead of the ready light wiring harness.
3. With an ohmmeter, check for continuity across the thermal cut-off terminals.

If continuity is present as described, the thermal cut-off is operating properly.
If continuity is not present as described, replace the thermal cut-off.

4. Disconnect the thermal cut-off from the tank heater termnal and the red lead from the main wiring harness.
5. Check for continuity across the thermal cut-off terminals.

If continuity is present as described, the thermal cut-off is operating properly.
If continuity is not present as described, replace the thermal cut-off.

Removal and Replacement:

1. Disconnect the thermal cut-off from the terminal on the black lead from ready light harness and the black lead from the control thermostat or the tank heater terminal and the red lead from the main harness.
2. Remove the white lead from the tank "keep warm" heater from the thermal cut-off terminal.
3. Install new thermal cut-off.
4. Refer to Fig. 9 when reconnecting wires.

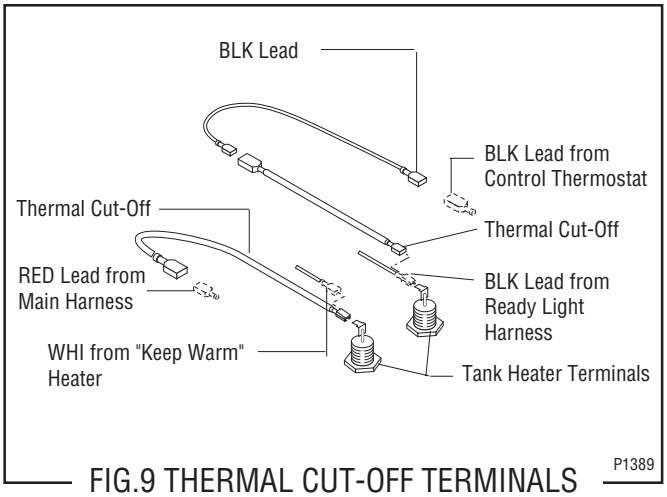
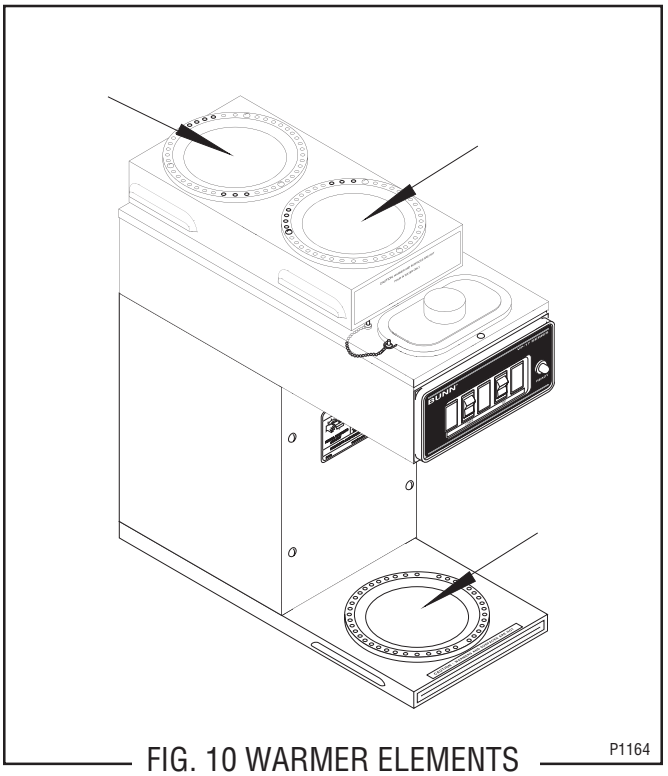


FIG.9 THERMAL CUT-OFF TERMINALS

SERVICE (cont.)
WARMER ELEMENT(S)



P1164

FIG. 10 WARMER ELEMENTS

Location:

The warmer element(s) is located under the warmer plate.

Test Procedures:

1. Disconnect the brewer from the power source.
2. With a voltmeter, check voltage across the red wire to the terminal block and white/red, brown/black or violet wire to the "ON/OFF" switch, with the "ON/OFF" switch in the "ON" (upper) position. Connect the brewer to the power source. The indication must be 220 to 240 volts ac
3. Disconnect the brewer from the power source.

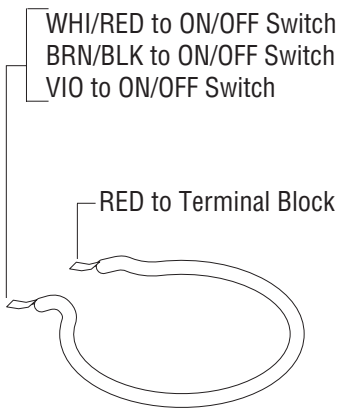
If voltage is present as described, proceed to #4.
If voltage is not present as described, refer to wiring diagrams and check brewer wiring harness.

4. Remove the three #4-40 screws securing the warmer assembly to the brewer.
5. Lift the warmer assembly from the brewer.
6. Disconnect the two wires from the warmer element terminals.
7. Check the continuity across the two terminals on the warmer element.

If continuity is present as described, reconnect the red wire, and red/white, brown/black or violet wires on the warmer element.
If continuity is not present as described, replace the warmer element.

Removal and Replacement:

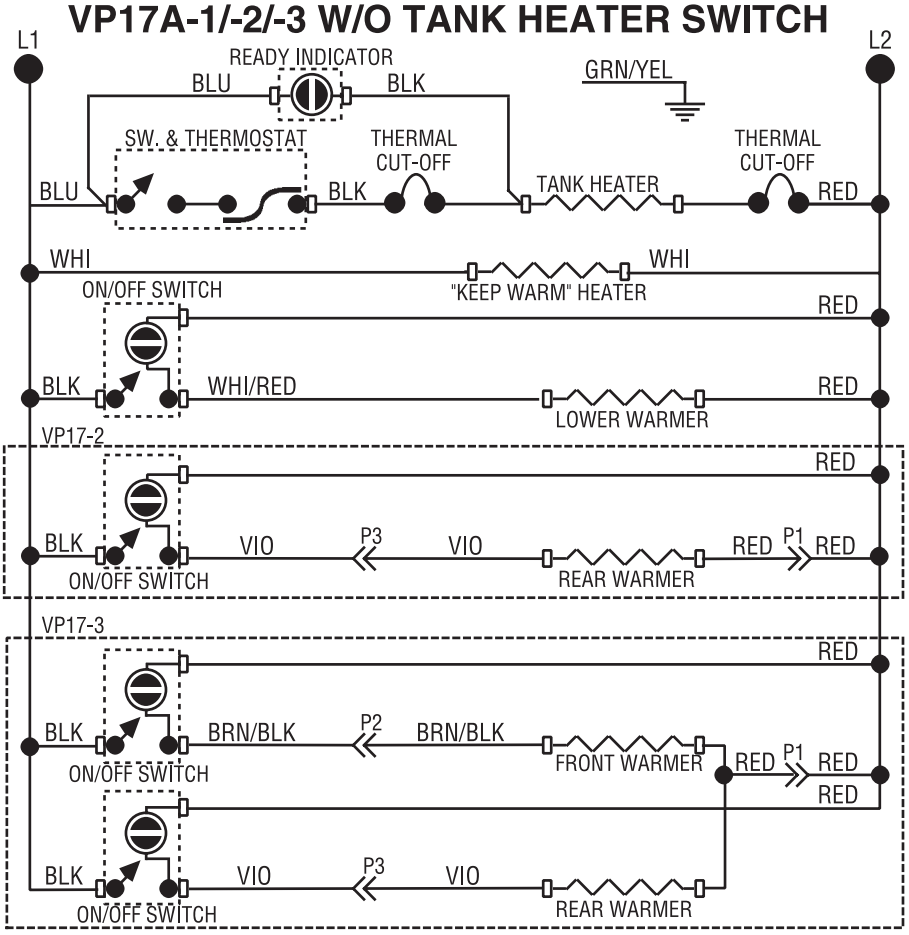
1. Remove the three #4-40 screws securing the warmer assembly to the brewer.
2. Lift the warmer assembly from the brewer.
3. Disconnect the two wires from the warmer element terminals.
4. Remove the two #8-32 nuts securing the warmer element to the warmer plate.
5. Securly install new warmer element.
6. Reconnect the two wires to the warmer element terminals.
7. Securly install warmer assembly on the brewer.
8. Refer to Fig. 11 when reconnecting the wires.



P1167

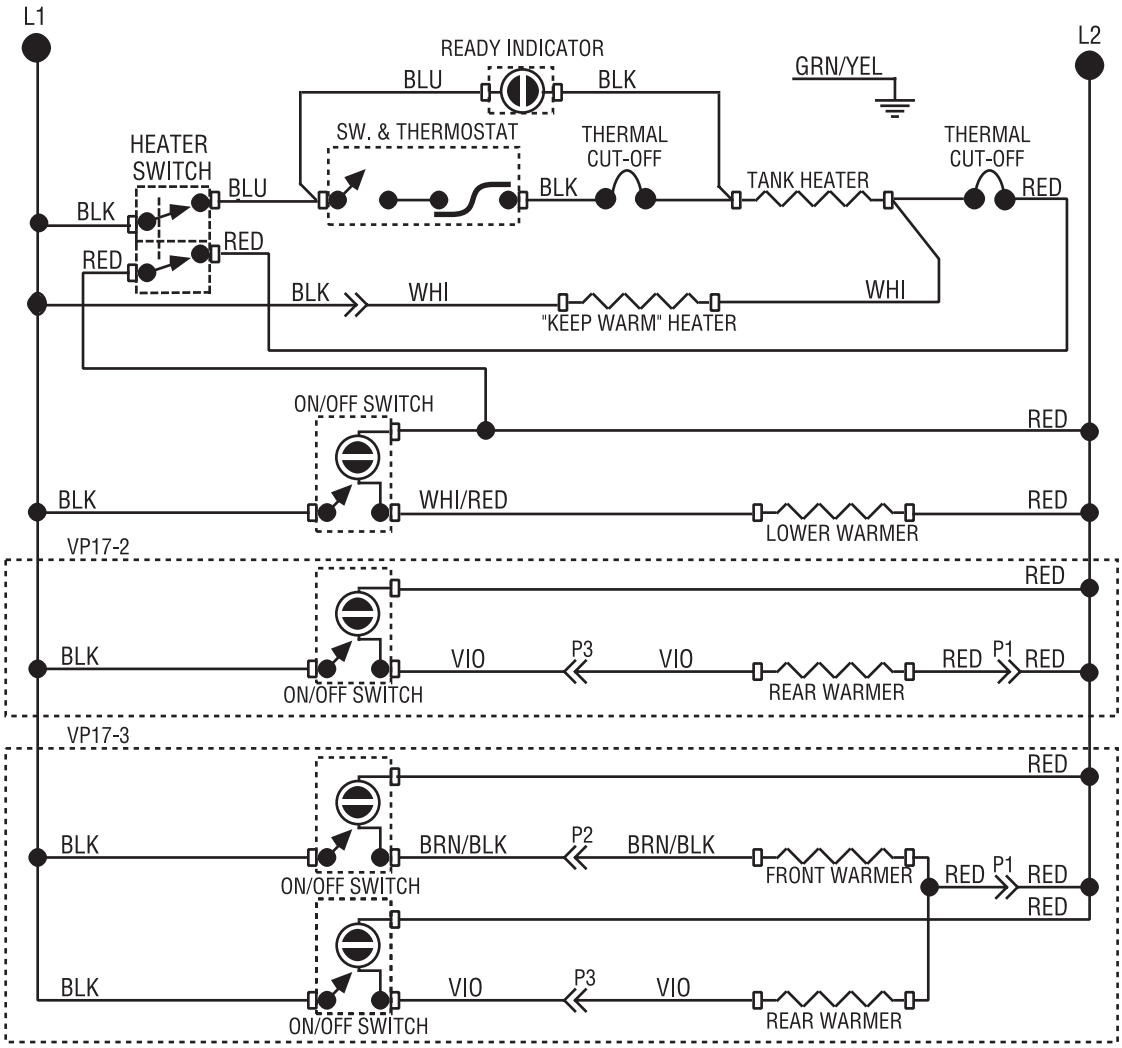
FIG. 11 WARMER ELEMENT TERMINALS

SCHEMATIC WIRING DIAGRAM
VP17A-1/-2/-3 W/O TANK HEATER SWITCH



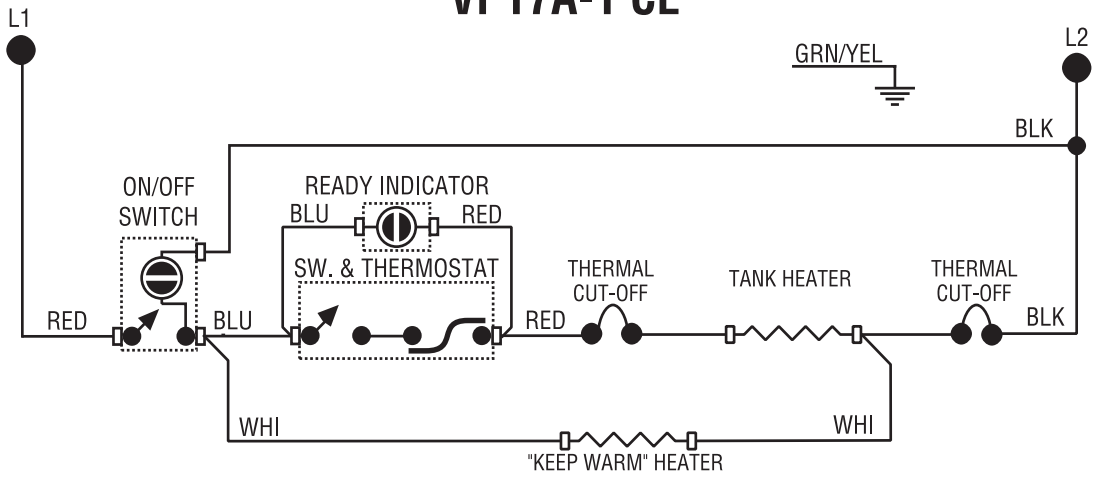
220-240 VOLTS AC 2 WIRE SINGLE PHASE

SCHEMATIC WIRING DIAGRAM
VP17A-1/-2/-3 with TANK HEATER SWITCH



220-240 VOLTS AC 2 WIRE
SINGLE PHASE

SCHEMATIC WIRING DIAGRAM
VP17A-1 CE



230 VOLTS AC 2 WIRE
SINGLE PHASE

10860.1 091300